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Traits Selection in Created Personal Ads and Sociosexuality: A New Method to Assess Sexual Strategy in Humans

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Abstract: Sociosexuality (SO) refers to preferring sexual interactions with or without commitment. Those who prefer long-term relationships have restricted SO, and those who pursue short-term relationships have an unrestricted SO. Sociosexuality may be assessed by Sociosexual Orientation Inventory (SOI-R). Here, we test a new method to assess SO. Respondents are asked to create a personal ad by selecting six out of 10 suggested preferred traits in a partner. Among these 10 traits, there were two traits in each of five evolutionary relevant categories i.e., attractiveness, commitment, resources, cognitive and social skills. We hypothesize that seeking attractiveness/sensuality in a potential partner is related to concentrating on mating investments (higher SOI-R) and to commitment to parental investment (lower SOI-R). Out of 416 subjects who participated in the study, 299 (188 women) were included in the analysis. We found that choosing two traits of attractiveness is related to a less restricted SO, while preference for two commitment traits category characterizes those with a more restrictive SO. No relationship between SOI-R and the preference for cognitive skills or resources was found. Women with more and men with less restricted SO sought partners with better social skills. The proposed new method could be used to assess reproductive strategy.

Keywords: sociosexuality, preferred traits, attractiveness, commitment, social skills, sexual strategy



Introduction

Sociosexual orientation refers to an individual's willingness to have sexual encounters with or without commitment and intimacy (Simpson and Gangestad 1991). At one extreme, are those with a Restricted Sexual Orientation (RSO). who want more commitment and emotional intimacy before deciding to have sex with someone. Therefore, they generally report fewer sexual partners and rarely engage in casual or 'one-night stand' sex (Simpson and Gangestad 1991). On the other side, are those with an Unrestricted Sexual Orientation (USO), who more frequently engage in short-term relationships based on uncommitted sex and have little or no need for an emotional bond with their partner. Such individuals quickly initiate sexual intercourse in romantic relationships, more often engage in 'one-night stands' and have more sexual partners (Simpson and Gangestad 1991). Despite many studies indicating that men are more permissive toward casual sex and more likely to engage in non-restrictive sociosexual behavior than women (Jurich and Jurich 1974; Mercer and Kohn 1979; Hendrick et al. 1985; Buss and Schmitt 1993; Barta and Kiene 2005), some research has shown more variation within than between genders (Kinsey et al. 1948; Eysneck1976; Hendrick et al. 1985; Schmitt 2005).

From an evolutionary point of view, the most important trait categories, which are decisive when choosing a partner are (1) physical attractiveness, (2) commitment, (3) social skills, (4) resources, and (5) cognitive skills (Buss 1989; Kenrick et al. 1993; Regan et al. 2000; Li at al. 2002; Sprecher and Regan 2002; Buss 2015; Li and Meltzer 2015; Fales and al. 2016; Jonanson et al. 2017; Thomas

et al. 2019: Walter et al. 2020). Each trait would have played at least some role in successful mating and reproduction in the ancestral past. Physical attractiveness likely indicated fertility, and offspring with an attractive partner would have had a higher chance of becoming desirable mates themselves (Cornwell and Perrett 2008; Pflüger et al. 2012; Rosenthal 2017; Bovet et al. 2018). Finding a committed and faithful partner was a significant factor in the survival of a child (Washburn and Lancaster 1968; Lancaster and Lancaster 1987; Stewart-Williams and Thomas 2013; Schacht and Kramer 2019). Finally, having a high-status partner can be advantageous for both men and women because social status is often linked with access to resources, opportunities, and influence within a community (Mulder and Beheim 2011; Nelissen and Meijers 2011; von Rueden 2014). Cognitive skills allowed individuals to adapt their behavior to specific situations in a complex and changing word (Brosnan et al. 2010; Taborsky and Oliveira 2012). Nowadays, obtaining higher education may also be valued because it is seen as prestigious or is an indicator of resources (Fales et al. 2016). Social skills help us understand other people's emotions. Instead of reacting instinctively to what we see or hear, we process this information which allows us to respond appropriately and take advantage of opportunities in social environment ultimately improving chances of survival and success (Walters and Sroufe 1983; Paul et al. 2005; Taborsky and Oliveira 2010).

However, finding a partner who is close to perfection in all the aforementioned categories is rare. In most cases, people on the dating market usually agree to trade-offs, forsaking some desired traits or accepting undesirable ones if there is an opportunity to obtain another more favorable trait (Csaibók and Berkics 2017; Csajbók et al. 2022). Given that people with a RSO tend to engage in long-term relationships, while people with a USO choose short-term relationships more often, it is reasonable to assume that people are guided by different criteria when entering romantic relationships. Studies show that when looking for a long-term partner, traits associated with family (i.e., warmth, fidelity, honesty) and cognitive skills (i.e., intelligence, ambition, education) are more important (Regan et al. 2000; Fletcher at al. 2004; Castro and Lopes 2011). For women, resource-related traits also play a significant role in long-term relationships (Regan et al. 2000; Fletcher et al. 2004; Castro and Lopes 2011; Buss 2015; Fales et al. 2016; Jonanson et al. 2017; Thomas et al. 2019). In contrast, when looking for a short-term partner, external attributes like physical appearance are more desirable for both men and women (Simpson and Gangestad 1992; Gangestad 1993; Kenrick et al. 1993; Regan and Berscheid 1997; Wiederman and Dubois 1998; Stewart et al. 2000; Jonanson et al. 2017; Schwarz et al. 2020). Other traits favored in a short-term relationship are related to social skills (i.e., sense of humor, sociability) (Simpson and Gangestad 1992; Sprecher and Regan 2002).

Since sociosexual orientation relates to the type of relationships a person will be more likely to engage in (Simpson and Gangestad 1991), it should also relate to the preferred traits in a potential partner. In 1992, Simpson and Gangestad examined that relation by asking the participants to rate the importance of 15 partner attributes which related to either (1) personal/parenting qualities or (2) attractiveness/social visibility. Individuals

with RSO rated attributes indicating the first one highly, while individuals with USO put more importance on the attributes related to the second one. Other studies have also attempted to link partner trait preferences and SO (Muggleton and Fincher 2017; Wilbur and Campbell 2017; Marcinkowska et al. 2021), however, in all of these studies respondents were asked to select their preferred traits with a distinction between a short-term and long-term partner, which immediately suggested to the respondents that the set of traits for the ideal partner would vary depending on the context of the relationship.

In addition, our main motivation for conducting the present study was not to examine correlations, which are already well documented, but rather to see if sociosexual orientation could be determined based on the traits selected by those surveyed. The Sociosexual Orientation Inventory (SOI) designed by Simpson and Gangestad in 1991 addressed the previous shortcomings of sociosexuality measures that tended to focus more on examining permissiveness to extramarital sex (Jurich and Jurich 1974; D'Augelli and D'Augelli 1977; Kelley 1978; Jessor et al. 1983), rather than willingness to engage in sex without love, commitment and emotional closeness. The SOI also addressed the problem of the often-weak relationship between attitudes and behavior (Wicker 1969) as expressing a willingness to engage in sex without emotional intimacy is quite different from actually doing so. Simpson and Gangestad (1991) developed and validated a short self-report measure, the Sociosexual Orientation Inventory (SOI) intended to assess sociosexuality which included e.g., attitudes towards non-committal sex and sexual behavior. Higher scores indicate

a more non-restrictive orientation, while lower scores indicate a more restrictive orientation.

Despite the wide popularity of the SOI, the questionnaire has been repeatedly criticized. The main criticism has been the doubt that a single unidimensional aspect can accurately reflect differences in sociosexuality. Attention has also been drawn to the psychological heterogeneity of the questions and the distorted distribution of scores, the open-ended questions encouraging exaggerated responses with low reliability, and the phrasing of one of the questions in a way that makes the SOI inappropriate for singles (Townsend et al. 2005; Webster and Bryan 2007; Penke and Asendorpf 2008). For the above reasons, Penke and Asendorpf (2008) modified the SOI and the questionnaire became a multidimensional measure of three aspects of sociosexuality: (1) the behavioral dimension (e.g. the number of former sexual partners); (2) the attitude dimension concerning attitudes towards and acceptance of casual sexual contact devoid of emotional commitment; (3) the desire dimension concerning the intensity of fantasies about sexual contact with persons with whom the respondent is not in a relationship. All questions are closed, and answers are reported on a nine-point (optionally five-point) Likert scale. As with the SOI, responses from all nine questions are summed according to set rules (see Jankowski 2016), with higher scores indicating a non-restrictive orientation and lower scores indicating a more restrictive orientation.

A major problem with both SOI and SOI-R is the directness and intimacy of the questions, which means that many people, especially from countries with more closed and conservative backgrounds, may refuse to answer the questionnaire. Hence there is a need for a new measure of sociosexual orientation that does not include such questions and potentially can reach a larger group of respondents.

Here we use a new, unique method in that the respondents had to choose six of the 10 characteristics given. Each characteristic was assigned to one of the five categories. This arrangement required at least one category to be selected twice (both traits from a given category were selected by the subject). This is a simple and effective method, providing similar results to complex survey instruments, which can be used in many other studies. The purpose of the study is to observe the trade-off made when choosing a partner and see if it is possible to determine sociosexual orientation based on preferred characteristics in a potential partner.

Our hypotheses are as follows:

- people with an unrestricted sociosexual orientation will be more likely to look for attractiveness-related traits in a potential partner;
- those with a restricted sociosexual orientation will pay more attention to traits related to commitment;
- seeking resources, cognitive and social skills will be more important for those with a restricted sociosexual orientation and therefore will be more related to the good prospects for parental investments.

Materials and methods

Participants

A total of 416 Polish speaking people took part in the survey. Excluded were the people who did not finish the survey (51) and whose sexual orientation was other than heterosexual (66). Thus,

299 subjects (62.9% (N=188) women) between 18 and 62 years of age (average age of 25.7 and 26.3 respectively for women and men) were included in the analysis. 59.9% (N=179) were in a relationship, of which 22.9% (N=41) were married. 15.4% (N=46) of respondents had children. The majority (64.5%, N=193) completed high school and 32.5% (N=97) graduated from university. Participants under 18 years old were not allowed to continue completing the survey.

Measures and procedure

The data were collected through Qualtrics' online platform. The survey link was shared through groups and online forums. Surveys were collected from February to April 2022.

The study was completely anonymous, the respondents gave their consent at the beginning of the study and were informed they could withdraw from the survey at any time. The questionnaire consisted of 3 parts: (1) sociodemographic data (age, sex, sexual orientation, and education), (2) a personal ad questionnaire, and (3) the Revised Sociosexual Orientation Inventory.

In the personal ad part, regardless of their current marital status, respondents were asked to imagine that they have no partner(s) and had to create their own personal ad. This section, like most personal ads, consisted of an "I'm looking for" section, in which respondents selected six characteristics of their dream partner(s) from the list of 10 characteristics. Respondents were not allowed to add their own adjectives to the list. Respondents were also asked to rank the selected adjectives from the most important to the least important of the six selected traits.

The traits were pre-assigned to five categories (two in each category) – (1) attractiveness – attractive, sensual; (2) cognitive skills – intelligent, college-educated; (3) social skills – with a sense of humor, sociable; (4) resourcefulness – entrepreneurial, high-earning; and (5) commitment – affectionate, faithful.

The form of the questionnaire, which required the selection of exactly six traits (there was no possibility to select fewer or more than six) meant that at least one (and up to three) of the five categories had to be repeated. The repeated categories are understood to be when both proposed traits have been selected from a given category. They were then treated as those playing the most important characteristic sought in a potential partner. One person could repeat a minimum of one category of features, and a maximum of three categories. One category was repeated by 94 people, two categories by 197 people, and three categories by eight people.

In the last section, respondents were asked to complete a 9-item validated Polish version of the Revised Sociosexual Orientation Inventory (SOI-R, Penke and Asendorpf 2008) to measure their level of sociosexual orientation. The SOI-R consists of nine questions, three items for each dimension of sociosexual orientation - (1) behavioral, (2) attitudes, and (3) fantasies. Questions are answered using a 9-point scale. After averaging the answers to these three questions, an indicator for each dimension was calculated. The total score for sociosexuality was the average from these three scales, where higher values in the score indicate a less restrictive sociosexual orientation and lower values more restrictive sociosexual orientation.

Analysis

The non-parametric Mann-Whitney U test was used to test the relationship between the level of sociosexuality and gender because the data were not normally distributed. The Chi-square test of concordance was used to test the relationship between the frequency of repeating a given category of a potential partner's characteristics and gender. The relationship between the level of sociosexual orientation and the type of repeated category of traits sought was examined using the Mann-Whitney U test. Analyses were performed in Statistica 13 software.

Results

The SOI-R results on sex differences (Table 1) confirm that men have higher scores than women in all domains and the general SOI-R score.

Figure 1 shows how often each category of traits was repeated in the description of the potential partner, and therefore which category was most important to the respondents. In the case of attractiveness, men repeated this category more often than women $(X^2(1, N=299) = 16.09; p<0.001)$. Women, on the other hand, were more likely to repeat (or seek) cognitive skills $(X^2(1, N=299) = 5.85; p<0.05)$.

Table 1. Comparison of the median level of sociosexual orientation domains between women and men

	Medi		7		
	Women (N=188)	Men (N=111)	- р	Z	
SOIR	2.67	3.67	< 0.001	-6.01	
SOIR behavioral domain	1.33	1.67	< 0.001	-3.42	
SOIR attitudes domain	3.67	5.67	< 0.001	-4.7	
SOIR fantasies domain	2.00	3.67	< 0.001	-5.68	

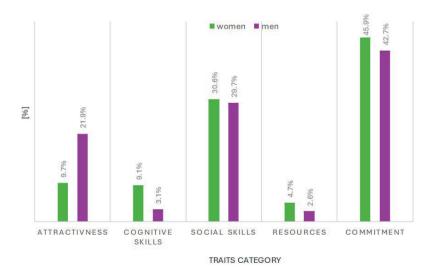


Fig. 1. Frequencies of repeated categories of preferred traits in a potential partner

The median levels of SOI-R and all its domains were then compared separately within each sex for all trait categories that were sought (repeated traits) in a potential partner characteristic (Table 2). The best assessment for SOI-R was found for repeating commitment for both sexes. Apart from behavioral dimension for men, both men and women who repeated commitment category have lower SOI-R and its other domains scores than those who did not repeat this category. This means that both men and women repeating this trait when seeking a sexual partner have more restricted sociosexuality. Seeking attrac-

tiveness in a partner can be also a relatively good SOI-R assessment for both sexes. Both men and women who repeated attractiveness category have higher general SOI-R scores than those who did not repeat this category. For women, what is interesting, this is mainly driven by attitude and fantasies domain. In both these domains women who repeated category attractiveness have higher scores. Out of the other three categories, only repeating category social skills is negatively associated with general SOI-R and attitude dimension for women and positively associated with attitude dimension for men.

Table 2. Comparisons of the median scores of the sociosexual orientation for repeated or not repeated traits sought in a partner in the sample of women

	Median for				
Traits category	SOIR domains	repeated	not repeated	Z	p
		category	category		
Attractiveness	SOI-R	3.44	2.33	4.41	< 0.001
	SOI-R behavioral	1.33	1.33	1.00	0.32
	SOI-R attitudes	5.33	3.67	3.46	< 0.001
	SOI-R fantasies	4.00	2.00	4.28	< 0.001
Cognitive skills	SOI-R	2.78	2.56	-2.56	0.80
	SOI-R behavioral	1.33	1.33	-0.35	0.73
	SOI-R attitudes	3.67	3.67	0,51	0.61
	SOI-R fantasies	2.67	2.00	-1.29	0.20
Social skills	SOI-R	2.33	2.94	-2.52	0.01
	SOI-R behavioral	1.33	1.33	-0.59	0.56
	SOI-R attitudes	3.67	4.00	-2.42	0.02
	SOI-R fantasies	2.00	2.33	-1.37	0.17
Resources	SOI-R	2.78	2.67	-0.66	0.51
	SOI-R behavioral	1.33	1.33	-0.20	0.85
	SOI-R attitudes	4.00	3.67	-0.22	0.83
	SOI-R fantasies	2.67	2.00	-1.06	0.29
Commitment	SOI-R	2.44	3.44	3.42	< 0.001
	SOI-R behavioral	1.33	1.67	2.65	0.008
	SOI-R attitudes	3.67	5.00	2.74	0.006
	SOI-R fantasies	2.00	3.00	3.10	0.002

Table 3. Comparisons of the median scores of the sociosexual orientation for repeated or not repeated traits sought in a partner in the sample of men

		Median for			
Traits category		repeated category	•	Z	p
Attractiveness	SOI-R	4.06	3.33	2.39	0.02
	SOI-R behavioral	1.83	1.67	1.28	0.20
	SOI-R attitudes	6.33	5.33	1.86	0.06
	SOI-R fantasies	4.00	3.33	1.56	0.12
Cognitive skills	SOI-R	4.06	3.56	-0.17	0.87
	SOI-R behavioral	2.17	1.67	-1.62	0.11
	SOI-R attitudes	6.33	5.67	-0.57	0.57
	SOI-R fantasies	2.67	3.67	1.22	0.22
Social skills	SOI-R	3.78	3.44	0.95	0.35
	SOI-R behavioral	1.67	1.67	-1.05	0.29
	SOI-R attitudes	6.00	5.50	1.38	0.17
	SOI-R fantasies	3.67	3.33	0.85	0.40
Resources	SOI-R	2.89	3.78	1.85	0.06
	SOI-R behavioral	1.67	1.67	0.50	0.62
	SOI-R attitudes	3.67	5.67	2.02	0.05
	SOI-R fantasies	3.33	3.67	0.19	0.84
Commitment	SOI-R	3.33	4.11	-2.66	< 0.01
	SOI-R behavioral	1.67	1.67	-0.28	0.78
	SOI-R attitudes	5.33	6.67	-2.34	0.02
	SOI-R fantasies	3.17	4.67	-2.15	0.03

Discussion

The aim of our study was to test new method allowing to assess sociosexuality and therefore potential sexual strategy pursued by women and men. We analyzed if creating a personal ad with an emphasis (repeating some category) on a specific trait in a potential partner (e.g., attractiveness, commitment or social skills) allows to assess sociosexuality measured by SOI-R.

We confirmed that the level of sociosexual orientation differs between sexes. Women are characterized by lower levels of sociosexual orientation (SO) in each domain (Buss and Schmitt 1993; Barta and Kiene 2005; Lippa 2009; Brase et al. 2014). This result indicates that in relationship to sex differences in sociosexuality our sample was not biased and can be treated as a representative for the studied population.

As expected, we showed that people with an USO focus mainly on traits re-

lated to attractiveness in a potential partner, while those with a RSO pay more attention to traits indicative of commitment (our two first hypotheses). It is also consistent with the previous research (Simpson and Gangestad 1992; Hackathorn and Brantley 2014). Additionally, the trade-off between commitment and attractiveness appeared more exacerbated for women than for men. This result is also consistent with the previous studies indicating that physical attractiveness is important to men regardless of the type of relationship (Kenrick et al. 1993; Regan et al. 2000; Fletcher et al. 2004; Castro and Lopes 2011) so giving up the attractiveness of a potential partner will be more frequent for women than for men.

According to our study, commitment and attractiveness are the traits sought in a potential partner that allow the best assessment of a person's general SOI score. In the case of women, higher expectation of attractiveness in a potential partner reflects mainly two domains of their SOI i.e. attitude and fantasy. It is noteworthy that the method we used is a better predictor of SOI-R and its domains for women than men. The relationships between SOI-R, SOI-R A, or SOI-R F, and both attractiveness and commitment sought are higher for women than men.

Contrary to the attractiveness that is supposed to indicate biological condition or fertility (Wiederman and Dubois 1998; Stewart et al. 2000; Schwarz et al. 2020) and commitment securing long-term relationship (with higher chances to raise offspring successfully), resources and cognitive skills are of a lower priority. We should, however, remember that our subjects are relatively young (around 26 y.o.) and come from a Western, Educated, Industrialized, Rich and Democratic (WEIRD) society. In the case of resourc-

es, it is likely that our subjects had a relatively good financial situation and therefore did not pay a lot of attention to this trait in a potential partner. In addition, in the studied society, there is a negative stereotype of people focusing on resources when seeking a partner, and therefore it is likely that to avoid social criticism, advertisers may be reluctant to admit they seek this trait in a potential partner. This problem, however, can be more important for women subjects. It is because according to many studies, men are less likely to seek resources (Kenrick et al. 1993; Regan et al. 2000; Fletcher et al. 2004; Castro and Lopes 2011).

The intriguing part of our results is the relationship between sociosexuality and seeking social skills in a partner. Women who paid more attention to social skills in a potential partner had lower SOI-R which confirms one part of our third specific hypothesis, but contradicts previous research by Simpson and Gangestad (1992). It is worth mentioning that men and women repeated this trait category equally often (respectively 29.7% and 30.6%). To describe social skills, we used "with a sense of humor" and "sociable," and what is of interest, both men and women were more likely to choose "with a sense of humor" rather than "sociable." A possible explanation might be the positive relationship between this trait and chances to acquire a partner with higher social status and with more resources and these attributes are mainly sought by women in a longterm partner (Kenrick et al. 1993; Regan et al. 2000; Fletcher et al. 2004; Castro and Lopes 2011). Well-developed social skills were shown to be associated with holding leadership positions e.g., in high school (Kuhn and Weinberger 2005). Furthermore, social skills can facilitate social interactions, which in turn can lead to greater conscientiousness and efficiency at work (Witt and Ferris 2003; Beheshitfar and Norozy 2013). In the case of entrepreneurs, it has been shown that a high level of social skills often helps in gaining access to investors or potential customers, which strongly influences success at work (Baron and Markman 2000). However, for men we found opposite relationships, men with USO in attitude dimension paid more attention to social skills. Other SOIR domains although not statistically significant also showed a trend in this direction. To sum up, we confirmed our first and second hypotheses, but the third one was confirmed only for social skills and only for women.

To the best of our knowledge, this study is the first attempt to examine the relationship between the sought traits in a potential partner and sociosexual orientation using new simple (relatively non-invasive, at least in some more traditional societies) way. The form of the survey based on creating a personal ad puts the subjects in a situation as close as possible to the one they might encounter in real life, which makes the obtained results reliable. The survey also made it possible to select more than one category of characteristics repeated, which made it possible to better observe what the preferences of each category of traits are according to the SO level than if only one of the categories could be repeated. However, further research is needed that would allow still more accurate SOI or reproductive strategy assessment.

The study has a few potential limitations. Poland is a conservative country, and many people did not want to complete a survey in which they had to answer such intimate questions,

which significantly limited the number of respondents. There also seems to be a problem with some adjectives used in the study. The fact that we found no significant results for cognitive skills may be either related to the lower (than attractiveness and commitment) meaning of these traits at the mating market or was due to an inappropriate selection of adjectives. The adjectives describing this category were - "intelligent" and "collage-educated." The adjective "intelligent" was chosen by 67% of the respondents, while the adjective "with a college education" was chosen by only 9% of the respondents. This is the largest difference observed in the choice of adjectives within a single category of traits, which may suggest that higher education was not the optimal trait for this category, making the category of cognitive skills a less frequently repeated category. To select adjectives that best describe the studied trait categories. it would be worth to conduct a survey in which subjects would determine to what extent a given adjective accurately reflects the category to which it belongs. Moreover, our subjects are relatively young (around 26 yrs) and come from a WEIRD society, and therefore our results (including those related to the resource category) cannot be generalized for the whole population, and more so for other populations, for instance living in a harsher environment or in developing countries.

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Conflict of interest

The authors declare no competing interests.

Ethics statement

The study was completely anonymous and non-invasive. The respondents gave their consent at the beginning of the study and were informed they could withdraw from the survey at any time without any consequences, so it did not require formal ethical approval to conduct it.

Statement of contributions by individual authors

Justyna Kajstura – data collection, data analysis, manuscript writing; Bogusław Pawłowski – study conceptualization, planning a procedure, correction of analysis and manuscript

We declare that the paper has not been previously published or concurrently submitted to an editorial office of another journal, and also it is approved by all authors.

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